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(71)Applicant : FURUKAWA ELECTRIC CO LTD:THE

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(72)Inventor : HIROISHI JIRO
KUMANO NAOMI
SUGIZAKI RYUICHI

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(54) NONLINEAR DISPERSION SHIFT OPTICAL FIBER AND OPTICAL SIGNAL PROCESSING DEVICE AND WAVELENGTH CONVERTER USING THE OPTICAL FIBER

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a practical nonlinear dispersion shift optical fiber suitable for wavelength conversion or optical signal processing using nonlinear phenomenon and easily manufactured.

SOLUTION: The wavelength dispersion at 1550 nm wavelength is controlled to the designed value required for optical signal processing using nonlinear phenomenon. The gradient of the wavelength dispersion at 1550 nm wavelength is specified to 0.001 to 0.1 ps/nm²/km. The margin of fluctuation of the wavelength dispersion in the longitudinal direction of the optical fiber at 1550 nm wavelength is specified to 0.01 to 3 ps/nm/km. The nonlinear constant n_2/A_{eff} at 1550 nm wavelength is specified to $\geq 15 \times 10^{-10}/W$.

